

THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

VILLAGE OF WELLINGTON

COUNTY OF PRINCE EDWARD

1964

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THE
ONTARIO WATER RESOURCES
COMMISSION

Report on

WATER POLLUTION SURVEY

of the

VILLAGE OF WELLINGTON

in the

COUNTY OF PRINCE EDWARD

Division of Sanitary Engineering
October 1964

WATER POLLUTION SURVEY

of the

VILLAGE OF WELLINGTON

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WATER POLLUTION SURVEY

VILLAGE OF WELLINGTON

INTRODUCTION

A water pollution survey of the Village of Wellington was performed on October 6, and 27, 1964. This was in response to various complaints of pollution in the Wellington area and in Yeo Lake (West). Samples were also collected from various points in Yeo Lake to obtain a general assessment of the sanitary quality of these waters.

Surveys of this type are performed by the Ontario Water Resources Commission for the purposes of locating and recording the sources of existing and potential water pollution. Recommendations are made concerning the abatement of these sources to the parties concerned.

It is noted that the comments in this report pertain to conditions as they existed at the time of the survey.

PERSONS INTERVIEWED

The following officials were contacted:

Mr. J. A. Cleminson, Municipal Clerk;
Dr. W. N. Turpel, Medical Officer of Health, Prince Edward
County Health Unit;
Mr. C. Winters, Conservation Officer, Wellington.

VILLAGE OF WELLINGTON

General

Situated in the County of Prince Edward, the Village of Wellington lies on the shore of Lake Ontario approximately 15 miles due south of the City of Belleville. According to the 1964 Municipal Directory, the assessed population is 1,015.

Drainage

Drainage for the town is generally provided by Lake Ontario

and Yeo Lake (West), the two bodies of water into which the majority of the municipal storm sewers drain. A small creek which runs through the approximate centre of the village and drains into Lake Ontario near the foot of Wharf Street, receives the discharge from the storm sewers extending along Main Street. The creek has been improved in the main part of the village to assume the features of a municipal sewer.

A programme of storm sewer construction was being carried on by the Department of Highways at the time of the survey. On the first day of the survey, some of these sewers were not yet laid.

Water Supply

Since August 1963, the village has been served by a municipal water works system. This system was established in a joint project between the Village of Wellington and the Ontario Water Resources Commission. The source of supply is from two drilled wells located on the sandbar extending into Lake Ontario between Beach and Belleville Streets. Water storage is provided by a 125,000 gallon elevated tank located on Oak Street east of Maple Street. In June of 1964, approximately 225 premises were being serviced.

Sewage Disposal

Sewage disposal is effected on a private basis, mainly by the use of septic tanks and subsurface disposal systems. The local health unit supervises current septic tank installations.

Industry

The major firms located in the village are the three canneries, namely, United Canners Limited, L. J. Greer Canning Factory and the H. C. Platt Canning Company, and Lakeview Dairy.

Seasonal canning operations are performed at the United Cannery Limited plant. The firm employs a spray irrigation system for the disposal of its industrial waste. The spray area is located some 2,500 feet from the small watercourse which flows through the town. The possibility of seepage escaping from the spray area to the watercourse with the resulting pollution of some area wells has been suspected and investigated on a number of occasions. Cooling water from the factory is discharged to this watercourse.

Tomatoes only are packed by the Platt Canning Factory. An unsatisfactory method of industrial waste disposal exists at this plant, wherein the wastes are screened and then discharged to Lake Ontario via a municipal sewer.

In compliance with a recommendation by the Commission, all wastes from the Greer Company are collected and hauled away for land disposal.

The Lakeview Dairy is situated on the shore of Lake Ontario. Industrial wastes from this plant are disposed of by a septic tank, tile line and subsurface rock pit. This system appeared to be functioning satisfactorily during the survey.

Lakefront Area

Extensive use is made of Wellington Bay and Yeo Lake for boating purposes.

A considerable number of summer cottages as well as private dwellings are situated along the shoreline. Some private outfalls from these premises could exist; however, this could only be determined by individual dye testing of sanitary waste facilities.

Complaints were received by the Commission regarding the

dumping of fill along the lakeshore between Narrow Street and West Street. This material, consisting mainly of clean fill and broken asphalt paving, has been deposited for some forty to fifty feet along the lakefront to a depth of approximately twenty feet. During the survey, it was learned that the material had been deposited by the Department of Highways while the sewer construction programme was being carried out. The dumping received the sanction of the municipality inasmuch as it was contended that this would improve the area.

Although it may be considered an improvement of the area, it is likely that much of the material would be washed into the lake, expecially during high water periods. In order to prevent this, a suitable retaining wall or dyke should be constructed.

The Quinte Milk Products Limited plant is located in the Township of Hallowell on the North shore of Yeo Lake (West) immediately east of the village. Prior to the summer of 1962, industrial wastes from this plant were discharged to the waters of the lake; however, since June of the same year a spray irrigation system of apparent adequacy has been utilized for the disposal of industrial wastes.

SAMPLING PROCEDURE

Samples were collected from the watercourses in the area, and from any evident discharges thereto. All samples were submitted to the OWRC laboratory for bacteriological examination and sanitary chemical analysis. The samples pertaining to the Village of Wellington are contained in Appendix I. The samples pertaining to Yeo Lake are contained in Appendix II. Also appended are two maps, one of the Village of Wellington and one of Yeo Lake.

INTERPRETATION AND SIGNIFICANCE OF LABORATORY RESULTS

The analysis employed in this investigation to assess the quality of outfall discharges and surface waters were biochemical oxygen demand (BOD), suspended solids, and the total coliform count.

The BOD of sewage, industrial wastes or polluted waters is the oxygen required during stabilization (natural purification in the stream) of the decomposable organic material by aerobic biochemical action. A five-day BOD determination with incubation at 20 degrees Centigrade is reported. A high BOD is indicative of organic or chemical pollution. A desirable upper limit in surface water is four (4) parts per million (ppm).

Suspended solids are reported in parts per million and indicate the measure of undissolved solids of organic or inorganic nature.

The total coliform count is employed to obtain an enumeration of coliform organisms, and the number is reported per 100 millilitres (ml) of the sample. The Membrane Filter technique was used in the examination of these samples. The maximum limit of 2,400 coliform organisms per 100 millilitres is the OWRC objective for the bacteriological quality of surface water in Ontario.

SAMPLE RESULTS

Satisfactory conditions with respect to the sanitary quality in the waters of the lakes in the vicinity of Wellington and generally throughout Yeo Lake (West) are indicated. A coliform count in excess of the Commission's objective was noted in one sample taken near the Quinte Milk plant. From the results

of samples taken from the creek flowing through the village at sampling point number W. 0.25 and L.O.W. 203.65, it would appear that pollution of this watercourse is occurring as it passes through the main section of the village. This pollution is likely due to the presence of private domestic waste discharges or the presence of domestic waste in the storm sewer discharges to this watercourse.

A sample of the discharge from the storm sewer at the foot of Maple Street which is sample point number L.O. 203.9 W indicates a BOD and bacterial content slightly in excess of Commission objectives for surface water quality.

SUMMARY

A water pollution survey of the Village of Wellington was performed on October 6 and 27, 1964. Samples were also collected from Yeo Lake (West). Generally, pollution in the area does not appear to be severe, however, some sources were indicated.

Pollution is noted in the creek which flows through the village. A slightly excessive coliform count was noted in the storm sewer at the foot of Maple Street. An unsatisfactory method of waste disposal exists at the A. C. Platt Canning Factory wherein industrial wastes are discharged to Lake Ontario via a municipal sewer. The possibility exists of erosion of the fill which has been deposited on the lakefront between Narrow Street and West Street.

RECOMMENDATIONS

1. Contaminated flows should be eliminated from the creek flowing through the town. This could be accomplished by the elimination of private outfalls and the severance of any sanitary waste connections to the municipal sewers.

2. The A. C. Platt Canning Company should revise its method of waste disposal in order to eliminate its industrial waste from the municipal storm sewer.

3. United Cannery should continue their efforts to avoid pollution of surface and ground water supplies by the discharge of factory wastes.

4. A suitable retaining wall or dyke should be constructed at the filled area between Narrow Street and West Street to ensure that the fill material will not be washed into the lake.

All of which is respectfully submitted,

District Engineer:


J. K. Theil

Approved by:

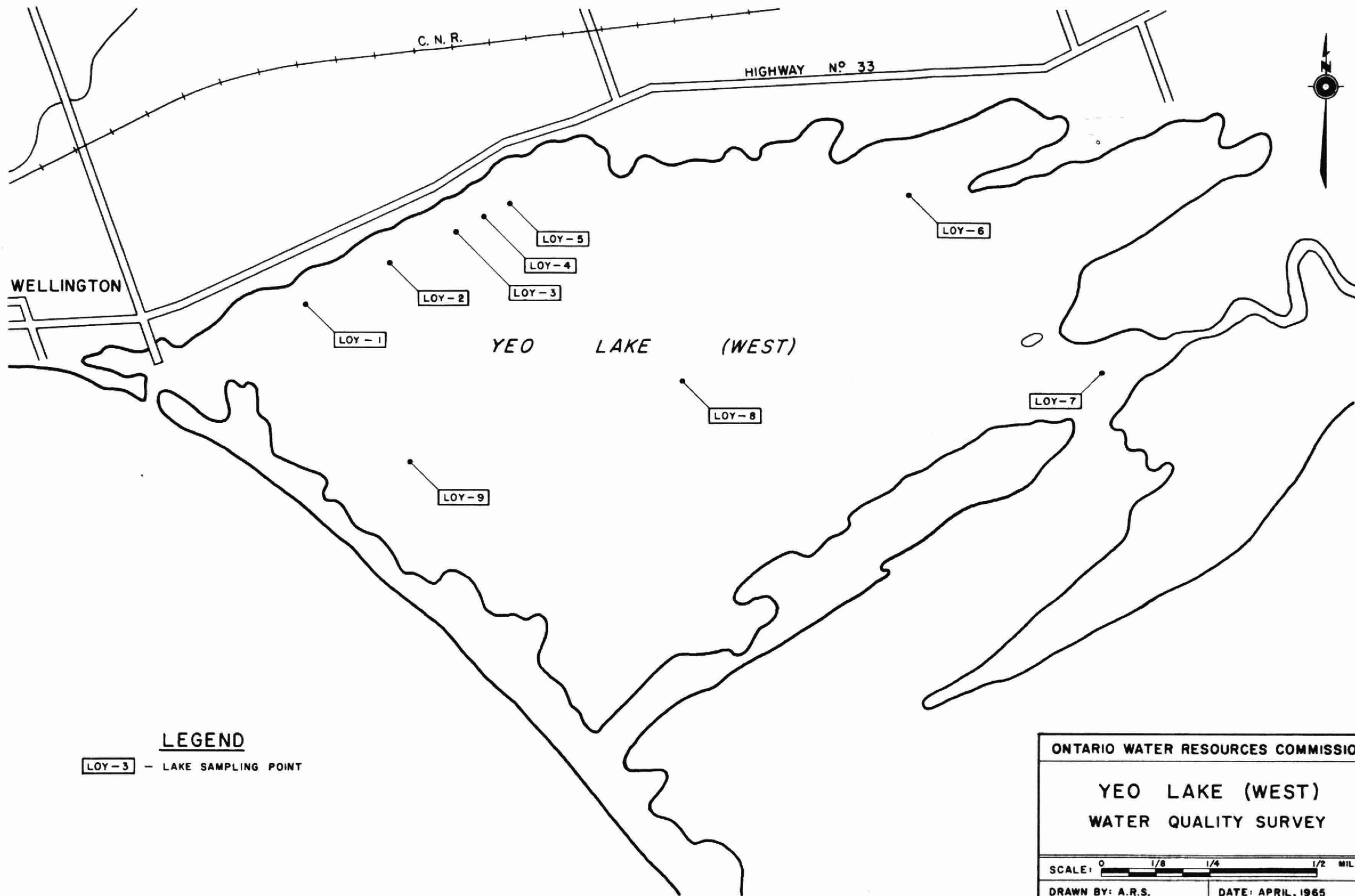
K. H. Sharpe, Director

SAMPLES PERTINENT TO VILLAGE OF WELLINGTON

SAMPLE POINT NO.	DATE	DESCRIPTION OF SAMPLING POINTS	5-DAY BOD	S O L I D S			TOTAL COLIFORMS PER 100 ML
				TOTAL	SUSP.	DISS.	
L.O. 203.3	JULY 29	LAKE ONTARIO NEAR WEST END OF WELLINGTON					2,000
L.O. 203.2 W	OCT. 6	STORM SEWER DISCHARGE TO LAKE ONTARIO AT APPROXIMATELY LOT 71 A		NO FLOW			
	OCT. 27			NO FLOW			
L.O. 203.4 W	OCT. 6	STORM SEWER WHICH DISCHARGES TO DITCH LEADING TO LAKE ONTARIO OPPOSITE OLD CANADIAN CANNERS PLANT		NO FLOW			
	OCT. 27			NO FLOW			
L.O. 203.6 W	OCT. 6	STORM SEWER WHICH DISCHARGES TO LAKE ONTARIO AT THE FOOT OF WEST ST.		NOT CONSTRUCTED			
	OCT. 27			NO FLOW			
L.O.W. 203.65	OCT. 6	WELLINGTON CREEK AT LAKE ONTARIO	4.2	552	3	549	60,000
	OCT. 27						3,100
W. 0.25	OCT. 6	WELLINGTON CREEK AT NILES STREET	1.1	464	3	461	430
L.O. 203.9 W	OCT. 6	STORM SEWER WHICH DISCHARGES TO LAKE ONTARIO AT THE FOOT OF MAPLE ST.	2.5	236	10	226	4,000
	OCT. 27			NO FLOW			
L.O. 204.0 W	OCT. 6	STORM SEWER WHICH DISCHARGES TO A DITCH LEADING TO LAKE ONTARIO AT THE FOOT OF BEACH STREET		NO FLOW			
	OCT. 27			NO FLOW			
L.O.Y. 204.2	OCT. 6	YEO LAKE (WEST) AT THE GOVERNMENT DOCK WELLINGTON	3.2	198	10	188	210
	OCT. 27						
L.O.Y. 204.2 W	OCT. 6	STORM SEWER WHICH DISCHARGES TO A DITCH LEADING TO YEO LAKE (WEST) AT THE FOOT OF BELLEVILLE STREET		NO FLOW			
	OCT. 27			NO FLOW			
L.O.Y. 204.5 W	OCT. 27	STORM SEWER WHICH DISCHARGES TO A RAVINE LEADING TO YEO LAKE (WEST) APPROXIMATELY LOT 193 C		NO FLOW			
L.O.Y. 204.7	OCT. 6	YEO LAKE (WEST) AT EAST END OF WELLINGTON	2.8	194	20	174	110

SAMPLES PERTINENT TO YEO LAKE WEST

SAMPLE POINT NO.	DATE	DESCRIPTION OF SAMPLING POINTS	5-DAY	S O L I D S			TOTAL COLIFORMS
			BOD	TOTAL	SUSP.	DISS.	PER 100 ML
L.O.Y. 1	OCT. 27	YEO LAKE (WEST) AT EAST END OF WELLINGTON	2.8	194	20	174	0
L.O.Y. 2		YEO LAKE (WEST) MIDWAY BETWEEN WELLINGTON AND QUINTE MILK PLANT					0
L.O.Y. 3		YEO LAKE (WEST) AT QUINTE MILK PLANT (WEST)	2.4	196	7	189	0
L.O.Y. 4		" " " " " " (CENTRE)	3.3	196	9	187	2
L.O.Y. 5		" " " " " " (EAST)	2.8	208	14	194	13,000
L.O.Y. 6			2.5	202	7	195	0
L.O.Y. 7		" " " AT MOUTH OF CREEK FROM BLOOMFIELD	2.2	612	10	602	0
L.O.Y. 8		" " " AT APPROXIMATE CENTRE					0
L.O.Y. 9		" " " ADJACENT TO SANDBAR					80



LEGEND

LOY-3 - LAKE SAMPLING POINT

ONTARIO WATER RESOURCES COMMISSION

**YEO LAKE (WEST)
WATER QUALITY SURVEY**

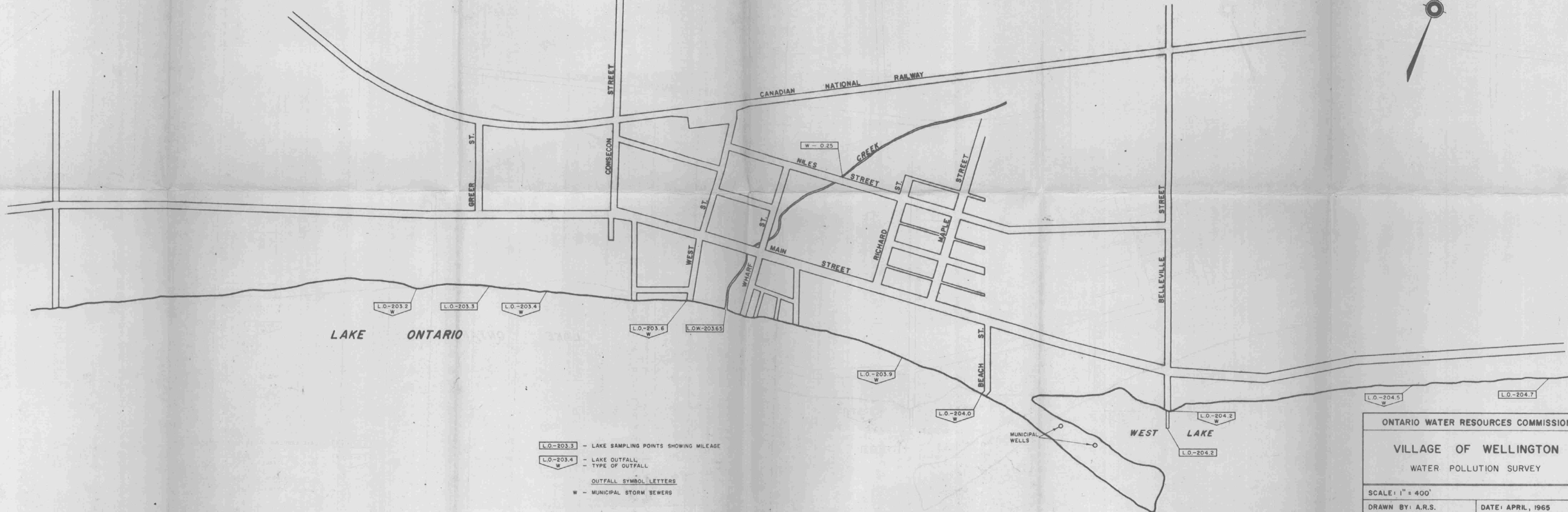
SCALE: 0 1/8 1/4 1/2 MILES

DRAWN BY: A.R.S.

DATE: APRIL, 1965

CHECKED BY:

DRAWING N°: 65-62



L.O.-203.3 - LAKE SAMPLING POINTS SHOWING MILEAGE
 L.O.-203.4 - LAKE OUTFALL
 W - TYPE OF OUTFALL
 OUTFALL SYMBOL LETTERS
 W - MUNICIPAL STORM SEWERS

ONTARIO WATER RESOURCES COMMISSION	
VILLAGE OF WELLINGTON	
WATER POLLUTION SURVEY	
SCALE: 1" = 400'	
DRAWN BY: A.R.S.	DATE: APRIL, 1965
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